

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for converting an analog input signal to a digital output signal, the method comprising:  
converting the analog input signal to at least one intermediate signal having a frequency dependent on the analog input signal;

dividing a frequency of said at least one intermediate signal to generate a frequency divided signal;

determining said frequency of said at least one intermediate signal and said frequency divided signal; and

processing said determined frequency of said at least one intermediate signal and said frequency of said frequency divided signal to generate the digital output signal which is representative of the analog input signal;

wherein said converting step further comprises converting a voltage of the analog input signal to said intermediate frequency dependent signal;

wherein said determining step further comprises a step of determining said frequency of said at least one intermediate signal using a first frequency detector and determining said frequency of said frequency divided signal using a second frequency detector; and

~~wherein said determining means further comprises means for determining said frequency of said at least one intermediate signal using a first frequency detector and means for determining said frequency of said frequency divided signal using a second frequency detector.~~

2. (Original) An analog-to-digital converter for converting an analog input signal to a digital output signal, the analog-to-digital converter comprising:

a voltage-to-frequency converter for converting the analog input signal to at least one intermediate signal having a frequency dependent on the analog input signal;

a frequency divider for dividing a frequency of said at least one intermediate signal to generate a frequency divided signal;

a first frequency detector for determining a frequency of said at least one intermediate signal;

a second frequency detector for determining a frequency of said frequency divided signal; and

a post-processor configured for processing said determined frequency of said at least one intermediate signal and said frequency divided signal to generate the digital output signal which is representative of the analog input signal.

3. (Original) The analog-to-digital converter according to claim 2, wherein said voltage-to-frequency converter is a voltage controlled oscillator.

4. (Original) The analog-to-digital converter according to claim 2, wherein said post-processor further comprises:

a first summer for summing component signals of said intermediate signal;

a second summer for summing component signals of said frequency divided signal; and

a combiner for combining said summed components of said intermediate signal and said frequency divided signal to generate a combined signal.

5. (Original) The analog-to-digital converter according to claim 4, wherein said combined signal is the digital output signal which is representative of the analog input signal.

6. (Original) The analog-to-digital converter according to claim 5, wherein said post-processor further comprises a weighting function for weighting said combined signal to generate the digital output signal which is representative of the analog input signal.